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the Standard

news and commentary on technology and standards in postsecondary education

Inside

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FSA Data Strategy
Revealed at Technology Conference

Terri Shaw, COO, U.S. Department of Education's Office of Federal Student Aid, had one unanswered question, "What about the data?" Shaw explained to attendees of the 1st Annual Conference on Technology and Standards in Crystal City, Virginia, last month that this question was what lead to FSA's Data Strategy initiative .

"As I looked at the wall that runs the length of the conference room showing the history and future of FSA…there did not appear to be a plan or strategy for all the data that flows into and out of FSA to all its trading partners," said Shaw.

With this revelation, Shaw reinvented the old "Modernization Blueprint" that FSA used to document its technological strategies and advances and crafted the FSA Data Strategy.

The Data Strategy is comprised of five categories: Data Framework, XML Framework, Common Identification, Trading Partner Enrollment and Access and Technical Strategies.

The end goal is to have a system in which data is handled the same way regardless of its purpose. Under the current system there are numerous data fields that must be entered in different formats depending on the system in which the data must be used.

"Some say it is confusing and repetitive, I say, it's stupid," said Shaw.

Shaw described the current systems that have evolved on an "as needed basis" over time as a "horribly complex thing."

The complexity of the systems will be drastically reduced as the data is consolidated into a shared source, or Data Framework. In addition, the lack of repetitive data elements will further efforts to ensure data quality.

XML will serve as the underlying data-transfer language for all data elements flowing into and out of FSA.

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By implementing a Common Identification system, Student A will always be known as Student A when accessing data through FSA, whereas now, depending on what system the data is interacting with that student may be known as A Student, astudent, studenta, or any number of combinations or even completely different identifiers.

Through the Trading Partner Enrollment and Access strategy, FSA intends to implement a single sign-on for all web based applications, as opposed to the multitude of User Ids and passwords currently needed to access the different systems FSA houses.

Technical Strategies will address improvements in business services accessibility and enable standards-based access and communications. FSA will accomplish this through portals for schools, financial partners, etc., and by creating an external data exchange, called FSA Gateway, to allow a single entry point for exchanging data with trading partners outside of FSA.

"We will have a far simpler and far superior system for (the community) to work with," said Shaw.

While the Data Strategy is currently in draft form, the community version is expected to be released for community comment in the near future. Shaw told attendees she anticipated at least a 60-day comment period, once the strategy was released.

When it comes to a timeframe for implementation, Shaw commented, "We can only move as fast as everyone else can. We can't go racing out there if no one can race with us."

Conference Presentations Available!

All presentations from this year's 1st Annual Conference on Technology and Standards are now available online! Visit www.PESC.org and follow the conference links to download all presentations.

CBA, EFC, NCHELP, and PESC have received positive feedback on this year's conference and we look forward to seeing you next year in Washington DC on May 2-4 at the Wyndham Washington Hotel.

First Annual Conference Is Huge Success

The 1st Annual Conference on Technology and Standards drew a larger than expected group of attendees when it kicked off May 3 at the Marriott Crystal City in Virginia. The Conference was the first of its kind to bring together NCHELP, EFC, CBA and PESC as co-hosts of an event centered on the need for standards among the various groups that serve the postsecondary community.

Keynote speakers, Terry Shaw, COO, FSA, Dr. Brian Fitzgerald, Staff Director, Advisory Committee on Financial Assistance, and John Wookey, Senior Director of Applications Development, Oracle, all had a common message—standards bring simplicity and simplicity creates efficient systems, better data and user ease.

"Students and parents are confronted with incredibly complex need analysis models," said Fitzgerald.

From a business processes standpoint, Wookey, mirrored Fitzgerald's request for simplification stating "there is a huge and increasing importance for standards to step forward and define the process."

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With three concurrent sessions running throughout the two and a half day conference, attendees had numerous opportunities to explore existing and emerging standards, as well as technology initiatives in varying business processes across higher ed.

In a standing room only session titled Future Impact of Technology on the Delivery of Student Aid, Jerry Schubert, CIO, FSA, reminded attendees of the mission of technology enhancements.

"Technologies and its capabilities will not drive change," said Schubert, "the needs of the schools and the students they serve will be what drives change."

Despite major improvements in the amount of time transactions take to complete, it still does not seem fast enough for the students.

"The more we've been able to deliver in faster time, the less tolerant we are in any kind of delay," said Schubert.

Schubert was joined by panelists Steven McCullough, Executive Director, Iowa Student Loan Liquidity Corp., and Diane Stemper, President and CEO of ELM Resources. The panel was moderated by Steve Biklen, ASA Board of Directors.

While data quality and data security were an underlying theme to many presentations, Rick Skeel, Director of Academic Records at the University of Oklahoma and Barmak Nassirian, Associate Executive Director, AACRAO took student authentication head on in their session Data Matching and Student Identifiers.

Nassirian boiled down all the hype and confusion about using social security numbers into one simple explanation, "You can't use a number on one hand as a public identifier and on the other hand present it as an authentication of who you are."

However, neither he nor Skeel could offer much hope to attendees by way of suggesting an all encompassing solution. While both agreed that a database large enough to hold every person's personal information, as well as a system in which to both identify and authenticate people, were achievable, neither believe it will ever be built.

"(Americans) do not want to give that much control to the government," said Skeel, "What we can't build is a database that provides security at the same time that it allows for personal freedom."

The Conference also offered sessions on Security and Privacy Issues, XML Technical Training, Web Services, Data Quality, Common Record: CommonLine Technical Training, E-Sign, Standards Forum for Education, SIS Software Providers Roundtable, Applications of Leading Edge Technologies, NSLDS, Meteor Technical Training, Registry and Repository, E-authentication, Data Ownership, Enrollment Reporting, Data Transport, ISIR and Common Record, Open Source, and the XML Postsecondary Transcript.

The conference was also covered by Student Aid News, an LRP publication, in Volume 31, Issue No. 6 on pages 1, 3, and 6.

Top IT Issues In Higher Ed Announced

The fifth annual EDUCAUSE Current IT Issues Survey results have been released, identifying the issues that leaders in higher education information technology see as their most critical challenges. For the second year in a row, funding IT was singled out as the top issue.

Read the PRESS RELEASE
http://www.educause.edu/news/news_item.asp?Year=2004&ID=050504
View ALL FINDINGS in the related EDUCAUSE Quarterly report
http://www.educause.edu/asp/doclib/abstract.asp?ID=EQM0422
Access additional EDUCAUSE RESOURCES on current issues
http://www.educause.edu/issues/

interview

Interview with Larry Fruth

Executive Director, Schools Interoperability Framework

Tell us little about the Schools Interoperability Framework (SIF) in terms of the number and types of participants, how long has the organization been in existence, and what is it's organizational structure?

Begun in 1999, The Schools Interoperability Framework (SIF) is a non-profit membership organization comprised of over 130 school districts, state departments of education, software vendors and other organizations active in primary and secondary (pK-12) markets, who have come together to create a set of rules and definitions to enable software programs from different companies to share information. This set of platform independent, vendor neutral rules and definitions is called the "SIF Implementation Specification."

SIF is guided by a Board of Directors made up of the various membership foci who oversee the three staff members as well as the business planning and execution of the initiative. Reporting to the Board is a Technical Board of Directors made of up Working Groups that direct the development the SIF Specification. Various committees, subcommittees, and task forces make up the other working areas of the initiative. The majority of the work of the initiative is done voluntarily by SIF members.

Now that we better understand SIF the organization, tell us about SIF the technology. Specifically what is the SIF specification and what does it mean to be SIF certified?

The "SIF Specification" is a set of documents developed by SIF working groups. These documents articulate a set of common definitions for school data and a set of rules for how this data can be shared.

The common data definitions are called 'Data Objects'. 'Data Objects' cover many items that are involved in schools. For example, a student's name, address and phone number are part of the 'StudentPersonal' data object. By having different software programs understand this common definition of a student it is possible for them to share this information properly. There are 85 data objects currently defined. Additional data

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objects will be defined as the Specification matures.

In addition to "Data Objects," the "SIF Specification" also defines the rules for how software programs can send these 'data objects' to each other. This set of rules is called the 'infrastructure' and uses ways of sending messages that are built on the types of technology utilized by the internet. By using open and commonly available means to transport these data objects, SIF ensures that all vendors will be able to use the SIF framework and that all school systems will be able to implement it regardless of what kinds of computers or networks they have. Ensuring that SIF is vendor neutral and software platform independent is important guiding principal of SIF and the foundation of the long-term viability of the "SIF Specification." The SIF specification is XML based.

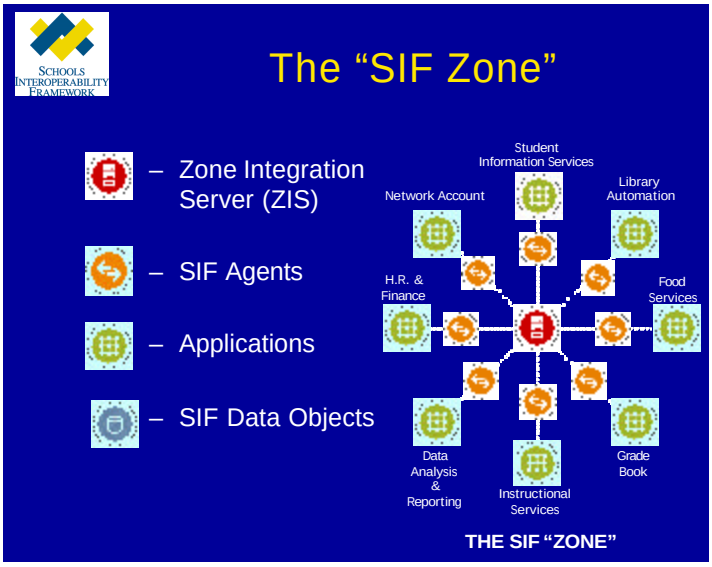
The SIF Certification Program is a formal program undertaken by SIF to confirm that software programs adhere to the rules and definitions of the SIF Implementation Specification. SIF has contracted with the Open Group, a well-respected international certification organization, to serve as the SIF Certification Authority. The SIF Certification Program involves a series of formal tests, which validate that software applications properly implement the SIF specification.

A software program which successfully completes the program will be able to display the 'SIF Compliant' logo on its package, website and in promotional literature. It is important to note that software programs will be 'Compliant' only to a particular release of the SIF Specification. The particular release of the specification will be indicated on the logo, for example: "SIF Compliant, Version 1.1." In completing the Certification Program, each company must complete a Conformance Statement Questionnaire indicating which SIF data and messages the company's application supports. The application will then be tested against this questionnaire to confirm the company's statements. The completed questionnaire is available on the Open Group's website. In order to continue to use the SIF Compliant logo, each company must support a 'conformance guarantee' stating that they will continue to keep their application in conformance with the specification throughout the duration of their compliance period.

n ***How does the specification help ensure interoperability, basically how does SIF work?***

Rather than have each application vendor try to create a separate connection to every other application, SIF has defined these sets of rules and definitions to share data within a SIF Zone (below). A SIF Zone is a logical grouping of applications, in which software application agents communicate with each other through a central communication point – the Zone Integration Server (ZIS). Data is shared between applications through a series of standardized messages, queries and events written in XML and sent using Internet protocols. These events are defined by the SIF Specification.

SIF Agents are extensions of each application that serve as the intermediary between the software application and the SIF Zone. The ZIS keeps track of the Agents registered in the Zone and manages transactions between Agents, enabling them to provide data and respond to requests. The ZIS is responsible for all access control and routing and security within the sys-



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tem. Because the behavior of the Agents and ZIS are standard functionality can be added to a Zone over time by simply adding SIF-enabled applications. This configuration is termed "Horizontal Interoperability".

"Vertical Interoperability" is a situation in which SIF agents at different levels of an organization communicate using a SIF Zone. Vertical interoperability involves data collection from multiple agents (upward) or publishing of information to multiple agents (downward). For example, a state department data warehouse may listen for changes in district level data warehouses and update its database on a regular basis. Or, a state department may wish to publish teacher certification data to districts.

■ ***How does SIF work within the community?***

SIF advocates for and promotes the development and implementation of software that support the fluid movement of data between applications employed in pK-12 educational environments with the goal of improving the quality and efficiency of learning, teaching, and communication in education. Through the active participation of both public and private sector technology and educational communities, SIF provides an environment where our shared vision can be enacted. By being grounded in immediate implementations, the solutions developed through the collaboration of the members of these communities have an impact on how educational institutions plan and make purchase decisions today. SIF believes that educators, administrators, and parents own the educational vision, whereas, it is the obligation of those who serve education to develop environments in which that vision can be tested and evolve. Through the development and implementation of interoperability specifications, SIF supports the partnership between these communities to create sustainable capabilities to improve the quality of education for all learners.

■ ***What is the benefit of being SIF compliant? What is the benefit of using only SIF compliant products?***

Certification is important for both educators and software companies. For educators it gives them the confidence that the 'SIF Compliant' software applications they purchase will work together with other 'SIF Certified' programs without having to do any special programming or make any significant modifications to the software.

For software companies, it verifies that their software program will be able to properly share information with software programs from other companies. This can be an important differentiator when school districts are making substantial software investments. Knowing that a new program will work with one already installed saves time and money for the school as well as for the company.

■ ***What is the biggest technological challenge facing education? Is enough attention being paid to this issue?***

Quality education relies, in large part, on professional educators and parents having access to the information, resources, and tools to serve learners of all ages. Education is a complex activity that is part science and part art. With this in mind, educators, parents, and school administrators must have access to state-of-the-art tools populated with up-to-date information in order to make effective use of a myriad of diverse resources. These resources, when combined effectively, produce an effective learning environment for all students.

Seamless integration of a broad spectrum of instructional, administrative and communication tools is an essential foundation for an environment that addresses the needs of all learners. Students, teachers, and institutions have different needs requiring solutions to be customizable and scalable.

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Accurate data is quickly becoming the currency of education. Whether driven by enrollment competi-

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tion, mandated reporting as with NCLB, research into the teaching learning process or fiscal challenges, we have demanded schools "do more with less". Schools and states need support in looking at their data and technology needs form a "systems" view rather than "what and where is the information I need today" focus.

■ ***What do you see as PESC's role in promoting interoperability?***

Interoperability is a concept that we all agree upon and need to champion each day. PESC has been very successful in identifying and engaging the relevant players in the interoperability specification/standards realm and starting conversations around possible partnerships. It is critical that we promote activities and awareness of interoperability so we all may benefit from our collective work. It is also critical that work with and learn from each other and not "re-invent" the wheel. PESC is an ideal community and dissemination point for this to take place.

■ ***SIF currently describes itself and its members as active in K-12 markets, is there any future plans of expanding into the postsecondary arena? Why or why not?***

Our expertise lies in the pK12 domain. It is clear we need to focus on our core business, which is specification development, support and community building in that arena. I think we would all agree that now more than ever the pK12/higher education lines are becoming blurred with high schools students taking undergraduate courses, the need for accurate articulation and transfer information from pK12 to HE and numerous other numerous other situations where easy and accurate data exchange would be helpful. In those situations that are being identified, our strategy is to identify partnerships with other entities (i.e., PESC, IMS, ADL, etc) with content expertise and experience to leverage previous work done and possible areas for collaboration.

What is SIF planning for the future? What can we expect to see in the coming year?

With the great growth seen in the last 12 months, "what's next?" is a loaded question. There will be

• A re-organization of the SIF Working Groups to ensure we are addressing all end-user needs regarding various technology applications:

• Heeding to the request of the educational stakeholder end-users, there will now be 6 month revisions to the Specification.

• Possible revisions of the SIF infrastructure looking at emerging technologies

• Expansion of data objects with a particular focus on mandated reporting, curriculum and learning object identification, targeted solutions such as pk12 transcripts and e-Portfolio work.

• Increased Specification implementation support including documentation of Best Practices

• Increase in the strategic partners (like PESC) who has done great work in higher education that we should leverage and not reinvent the wheel

• Formalized relations with international representatives who will serve as the "SIF Face" in their countries where SIF Specification usage is expanding

• Continue development of "community tools" for our various stakeholders to communicate

• Increased work on the SIF pK12 data model and its usage to support vendor and end-user needs

• Revisions to the current Certification Program and development of ZIS Certification and Implementation Certification Programs

• A lot of great work by volunteers!